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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/805,032

03/19/2004

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MCA-650 US

7965

25182 7590 04/25/2008
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EXAMINER

MENON, KRISHNAN S

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

04/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/805,032	Applicant(s) BARTLETT ET AL.	
	Examiner Krishnan S. Menon	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4 and 7-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 7-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/10/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1,2,4 and 7-23 are pending as amended in the RCE of 4/10/08.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1,4 and 7-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of copending Application No. 11/110,325. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claim limitations are similar. The thickness of the thermoplastic as being 100-125% of the thickness of the spacer layer in the present application would be obvious to one of ordinary skill to provide sufficient seal.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1,4 and 7-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the claims of U.S. Patent No. 7,097,800. Although the conflicting claims are not identical, they are not patentably distinct from each other because they recite the same limitations.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1,4 and 7-23 are rejected under 35 U.S.C. 102(a/e) as being anticipated by US 20030052054 (corresponding application number 10/246,904)

The disclosure in the co-pending application 10/246,904 reads on the claims of the instant application. The co-pending application'904 has a publishing date of March 20, 2003, and an effective filing date of 9/20/2001, with an inventive entity different from that of the present application with one common inventor, Mark Chisholm, between the two applications. This would make the application'904 a 102(a and e) reference for the instant claims.

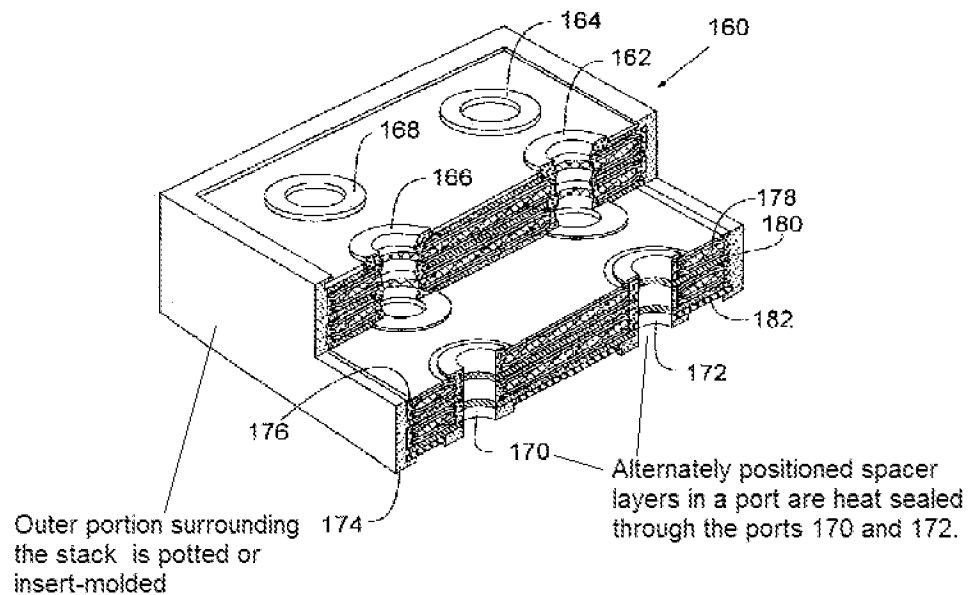


Fig 12 of 2003/0052054

Figure 12 of the reference is presented above, which shows a perspective view of the partial cross-section. The details of construction of the filter module is found in paragraphs 9-11, 33 and 36-42 of the reference. The sealing material appears to be the same in the application and the reference – thermoplastic compositions.

Arguments presented against this rejection are not persuasive.

With respect to the argument traversing this rejection (of 11/7/07):

The reference clearly teaches forming thermoplastic constructions (TPCs) on the edges of the screens and then selectively heating the adjacent tips of the TPCs together.

Is it not what is claimed? On the other hand, if applicant meant "the reference clearly teaches forming ...(TPCs) on the edges of the membrane and then selectively heating ...", see figures 3 and 6-9 of the reference. Figure 3 has the TPC molded to the

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porous support (56) of the membrane and to the porous screen (60) on the top (paragraph 33), which are also shown in the details of assembly in figures 6-11.

With respect to the argument traversing this rejection (of 4/10/08:

Argument (1):

The claimed invention is generally directed to a process for forming a filtration module. Each of the independent claims in the instant case encompass a step which requires *heat sealing a thermoplastic polymeric composition to an edge or perimeter of a spacer layer*. Also, see, for example, paragraph [0026] of the corresponding U.S. patent publication no. US20040226875.

In contrast, the process described in *Pearl* requires *heat sealing a thermoplastic polymeric composition onto end portions of a membrane*. See, e.g., paragraph [0011] of *Pearl*.

In response: The reference teaches heat sealing a thermoplastic composition to the edge of the membrane, then stacking the membranes and the spacer layers, and then heat sealing them together to form the channels as required. To form the channels, the spacer layers have to be sealed to the membranes, as is depicted in the figure reproduced above. This anticipates applicant's claim.

Argument (2):

Furthermore, the process encompassed by the claimed methods uses *direct heat sealing*. In contrast, the process described in *Pearl* employs *indirect heat sealing*. See, for example, paragraph [0011], according to which

[t]he final step of indirect heat sealing of thermoplastic polymeric composition preliminary sealed to the membrane layers then is selectively effected to form fluid flow channels that separate feed and retentate from filtrate within the module

Response: Applicant's independent claims 1 and 7 read at relevant part:

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(d) ~~heating heat sealing~~ the thermoplastic composition of each filtrate spacer layer so as to seal alternately positioned spacer layers in a port such that liquid in said at least one permeate port is not admixed with liquid in said feed inlet port and to bond the filtrate spacer layers and membrane layers together in a liquid tight arrangement and wherein the module has a packing density of active membrane to external filter volume of at least $300 \text{ m}^2/\text{m}^3$.

Independent claim 13 reads at relevant part (which also represents the language used in the other remaining independent claims):

(d) ~~melting the thermoplastic sections to selectively heat seal the spacer layers in the at least one feed inlet port and the at least one permeate port such that liquid in the at least one permeate port is not admixed with liquid in the at least one feed port, and to bond the membrane layers to the adjacent spacer layers;~~ and

The claim-language of the independent claims anticipates the process described in paragraph 0011 and the figure 12 of the reference and reproduced above. Applicant describes the heat sealing process as using heat or ultrasonic energy to make the thermoplastic composition to bond to membrane layers – see paragraph 11 of the Pre-Grant Publication. The reference uses the same technique, as described in paragraphs 28 and 41. Thus, the teaching of the reference is the same as what applicant disclosed and claimed.

Independent claims 1, 7, 21, 22 and 23 recite the thermoplastic sections as formed about the periphery of the filtrate spacer layers and around a port; and in independent claims 13 and 20, the thermoplastic sections are formed around the periphery and ports of permeable spacer layer. Claims do not recite that the thermoplastic sections are formed integral to these layers. The teaching of the reference, that the TPCs are molded on to the membrane backing or screen on top or both, actually form around or about the periphery of the filtrate spacer layers as seen in the assembly drawings. The screen (60) and membrane backing (56) are permeable

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spacer layers; the membrane backing also can be the filtrate spacer layer, which is integral to the membrane. Thus claims are anticipated.

2. Claims 1,4 and 7-23 are rejected under 35 U.S.C. 102(e/f) as being anticipated by Vigna et al (US 7,097,800).

This reference has a 102(e) date, has a totally different inventive entity compared to the applicant, and teaches and claims applicant's invention - see claims 17 and 18, and the abstract and figures. The active membrane to external filter volume ratio recited in applicant's claims would be the same in the reference, since the reference teaches an identical membrane cassette design.

Response to Arguments

Arguments presented to traverse the rejection are not persuasive; they are addressed in the rejection.

Conclusion

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Krishnan S Menon/
Primary Examiner, Art Unit 1797